

REMARKS

1. Formal Matters

a. Status of the Claims

Claims 1-16 are pending in this application. Claims 1-16 are hereby cancelled without prejudice to pursuing these claims in a continuing application. Claims 17-34 are new. Upon entry of these amendments, claims 17-34 are pending and under active consideration. Applicants respectfully request entry of the amendments and remarks made herein into the file history of the present application.

b. Amendments to the Claims

New claim 17 recites a nucleic acid consisting of 18 to 120 nucleotides, support for which may be found throughout the application including claims 1-3 as originally filed. New claim 17 also recites that the sequence of the nucleic acid may comprise at least 18 consecutive nucleotides of SEQ ID NO: 1931, support for which may be found at Table 1, lines 13513-13517 and paragraph 27228 as originally filed.

Claim 17 is also amended to recite that the nucleic acid may be: an RNA equivalent of (a), support for which may be found in the application as originally filed including at claim 1 and paragraph 27229.

Claim 17 is also amended to recite that the nucleic acid may be: a sequence at least 50/61 identical to (a) or (b), support for which may be found at claim 1 and Table 1, lines 13513-13517 as originally filed. GAM1954 (SEQ ID NO: 1931) forms a hairpin, as shown at Table 1, lines 13513-13517 and paragraph 27229 of the application as originally filed. The sequence of GAM1954 (SEQ ID NO: 1931) is 61 nucleotides in length. Within the predicted hairpin formed by the nucleic acid of SEQ ID NO: 1931, 50 complementary nucleotides are paired.

Claim 18 is also amended to recite that the nucleic acid may be: the complement of any one of (a)-(c), support for which may be found at claim 1 and paragraph 27229 of the application as originally filed.

New claim 18 recites the nucleic acid of claim 17, wherein the at least 18 nucleotides comprises the sequence of SEQ ID NO: 4539, support for which can be found at Table 1, lines 13513-13517 and paragraph 27225 of the application as originally filed.

New claim 19 recites a nucleic acid of claim 17, wherein the nucleic acid consists of 18 to 24 nucleotides, support for which can be found at claims 1-3 as originally filed.

New claim 20 recites a nucleic acid with a sequence consisting of (a) SEQ ID NO: 1931 (b) an RNA equivalent of (a); (c) a sequence at least 50/61 identical to (a) or (b); or (d) the complement of any one of (a)-(c), support for which may be found as described above for new claim 17.

New claim 21 recites a nucleic acid of claim 20, wherein the at least 18 nucleotides comprises the sequence of SEQ ID NO: 4539, support for which can be found as described for new claim 18.

New claim 22 recites a nucleic acid of claim 20, wherein the nucleic acid consists of 18 to 24 nucleotides, support for which can be found as described for new claim 19.

New claim 23 recites a nucleic acid of claim 19 wherein the nucleic acid is a RNA, support for which can be found at claim 1 and paragraph 27229 of the application as originally filed.

New claim 25 recites a nucleic acid of claim 23, wherein the nucleic acid is capable of modulating expression of a target gene, support for which can be found at claim 3 as originally filed.

New claim 26 recites a nucleic acid of claim 24, wherein the nucleic acid is capable of modulating expression of a target gene, support for which can be found at claim 3 as originally filed.

New claim 27 recites a nucleic acid of claim 25, wherein the nucleic acid is at least 15/19 complementary to a binding site sequence of 18 to 24 nucleotides of a target gene, support for which may be found at Table 2, lines 466708-468597, which show that among all listed target binding sites of the nucleotide represented by SEQ ID NO: 4539, the sequence of which is included in the sequence of SEQ ID NO: 1931, at the lowest level of complementarity a target binding site of 19 nucleotides has 15 nucleotides complementary to the sequence of SEQ ID NO: 4539. New claim 27 also recites that the binding site sequence is located in an untranslated region of RNA encoded by the target gene, support for which can be found at paragraphs 21 and 27227 the application as originally filed.

New claim 28 recites a nucleic acid of claim 26, wherein the nucleic acid is at least 15/19 complementary to a binding site sequence of 18 to 24 nucleotides of a target gene and wherein

the binding site sequence is located in an untranslated region of RNA encoded by the target gene, support for which can be found as described for new claim 27.

New claim 29 recites a vector comprising an insert, wherein an insert consists of the nucleic acid of claim 17, support for which can be found at paragraph 23 of the application as filed.

New claim 30 recites a vector comprising an insert, wherein an insert consists of the nucleic acid of claim 20, support for which can be found at paragraph 23 of the application as filed.

New claim 31 recites a probe comprising an insert, wherein an insert consists of the nucleic acid of claim 17, support for which can be found at paragraph 27 of the application as filed.

New claim 32 recites a probe comprising an insert, wherein an insert consists of the nucleic acid of claim 20, support for which can be found at paragraph 27 of the application as filed.

New claim 33 recites a gene expression inhibition system comprising the vector of claim 29 and a means for inserting said vector into a cell, support for which can be found at paragraphs 25-26 as originally filed.

New claim 34 recites a gene expression inhibition system comprising the vector of claim 30 and a means for inserting said vector into a cell, support for which can be found at paragraphs 25-26 as originally filed.

c. Amendments to the Specification

Paragraph [0185] is amended to assign SEQ ID NO: 99803 to the sequence shown in Fig. 21A in compliance with 37 C.F.R. §§ 1.821 - 1.825.

Paragraph [0190] has been amended to assign SEQ ID NOS: 99806-99811 to the listed sequences in compliance with 37 C.F.R. §§ 1.821 - 1.825. Paragraph [0190] has also been amended to correct typographical errors.

Paragraph [0197] been amended to assign SEQ ID NO: 99804 to the sequence shown in Fig. 22A in compliance with 37 C.F.R. §§ 1.821 - 1.825.

Paragraph [0200] has been amended to assign SEQ ID NO: 99805 to the sequence shown in Fig. 23A in compliance with 37 C.F.R. §§ 1.821 - 1.825.

d. Election/Restrictions**Groups I-III**

At pages 3-6 of the Office Action, the Examiner requires restriction to one of the following inventions under 35 U.S.C. 121:

- I. Claims 1-10, 13, 14, and 16, drawn to a bioinformatically detectable novel gene, a vector comprising said novel gene, a probe comprising said novel gene, and a vector inserter comprising said probe and a gene expression detector.
- II. Claims 11 and 12, drawn to a method of selectively inhibiting translation of at least one gene.
- III. Claim 15, drawn to a method of selectively detecting gene expression of at least one gene.

Applicant elects without traverse Group I, which now is considered claims 17-34, drawn to an isolated nucleic acid, a vector comprising said nucleic acid, a probe comprising said nucleic acid, and a gene expression inhibition system comprising said vector and a means for inserting said vector into a cell.

e. Sequence Election Requirement for All Groups

At page 6 of the Office Action, the Examiner requires restriction to a single sequence. Applicant elects with traverse nucleic acids related to SEQ ID NO: 1931 for further prosecution.

The Examiner is permitted under 35 U.S.C. 121 to issue a restriction requirement between independent and distinct inventions. However, the Director has partially waived the requirements of 37 C.F.R. § 1.141 *et seq.* to permit a reasonable number of nucleotide sequences to be claimed in a single application. *See Examination of Patent Applications Containing Nucleotide Sequence*, 1192 O.G. 68 (November 19, 1996). It has been determined that normally ten sequences constitute a reasonable number for examination purposes absent an exceptional case. *See* MPEP 803.04.

The Examiner has failed to demonstrate that the claimed sequences are an exceptional case necessitating that the number of sequences to be selected be less than ten. Applicant respectfully submits that the Examiner is impermissibly disregarding the waiver of 37 C.F.R. § 1.141 *et seq.* Accordingly, Applicant respectfully requests reconsideration of the restriction requirement and the opportunity to elect ten sequences for further prosecution.

f. Species Election Regarding Target Genes in Group I

At page 7 of the Office Action, the Examiner requires election of a single disclosed species for Group I under 35 U.S.C. § 121. Applicant without traverse elects ADAMTS13 which has the sequence of SEQ ID NO: 103845.

2. Conclusion

Applicant respectfully submits that the instant application is in good and proper order for allowance and early notification to this effect is solicited. If, in the opinion of the Examiner, a telephone conference would expedite prosecution of the instant application, the Examiner is encouraged to call the undersigned at the number listed below.

Respectfully submitted,

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